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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,046	10/26/2001	Risto Paatelma	4925-162	3788

7590 09/29/2004

COHEN, PONTANI, LIEBERMAN & PAVANE  
551 Fifth Avenue, Suite 1210  
New York, NY 10176

EXAMINER

BEAMER, TEMICA M

ART UNIT	PAPER NUMBER
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2681

DATE MAILED: 09/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/036,046

Applicant(s)

PAATELMA ET AL.

Examiner

Temica M. Beamer

Art Unit

2681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10/26/01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

1. Claim 7 is objected to because of the following informalities: "as claimed in claim 7" should read --as claimed in claim 6--. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-9 and 13-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kroeger et al (Kroeger), U.S. Patent No. 5,579,345.

Regarding claim 1, Kroeger discloses a synchroniser for use in a receiver which receives signals, said synchroniser comprising: means for providing a digital control signal, said control signal defining a plurality of different levels; means for controlling the level provided by successive ones of said control signals, successive ones of said control signal defining different values; and means for estimating the difference between the levels of successive ones of said control signals (col. 5, line 65-col. 6, line 12).

Regarding claim 2, Kroeger discloses a synchroniser as claimed in claim 1 wherein said digital control signal is converted into an analogue control signal (col. 4, lines 16-22).

Regarding claim 3, Kroeger discloses a synchroniser as claimed in claim 1, wherein said providing means, said controlling means and said estimating means are in the digital domain (col. 4, lines 32-61).

Regarding claim 4, Kroeger discloses a synchroniser as claimed in claim 3, wherein said providing means, said controlling means and said estimating means are provided in a digital signal processor (col. 5, lines 9-33).

Regarding claim 5, Kroeger discloses a synchroniser as claimed in claim 1, wherein said providing means comprises a digital corrector (col. 5, lines 3-5).

Regarding claim 6, Kroeger discloses a synchroniser as claimed in claim 1, wherein a rough correction is provided by said control signal (col. 7, lines 3-15).

Regarding claim 7, Kroeger discloses a synchroniser as claimed in claim 6, wherein said rough correction is provided in an analogue domain (col. 4, lines 34-43).

Regarding claim 8, Kroeger discloses a synchroniser as claimed in claim 6, wherein a finer correction is provided (col. 7, lines 3-15).

Regarding claim 9, Kroeger discloses a synchroniser as claimed in claim 8, wherein said finer correction is provided in a digital domain (col. 7, lines 3-15).

Regarding claim 13, Kroeger discloses a synchroniser as claimed in claim 1, wherein said synchroniser is arranged to acquire and/or track frequency error (col. 7, lines 3-15).

Regarding claim 14, Kroeger discloses a synchroniser as claimed in claim 1, wherein said synchroniser is arranged to acquire and/or track timing error (col. 13, lines 31-53).

Regarding claim 15, Kroeger discloses a receiver comprising a synchroniser as claimed in claim 1(col. 5, lines 3-8).

Regarding claim 16, Kroeger discloses a receiver as claimed in claim 15, wherein said control signal is used to control a mixing frequency (col. 16, lines 28-35; figure 3A).

Regarding claim 17, Kroeger discloses a synchronizer as claimed in claim 2, wherein said providing means, said controlling means and said estimating means are in the digital domain (col. 5, line 65-col. 6, line 12; figure 2).

Regarding claim 18, Kroeger discloses a synchroniser as claimed in claim 7, wherein a finer correction is provided (col. 7, lines 3-15).

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kroeger.

Regarding claims 10-12, Kroeger discloses a synchroniser as claimed claims 1 and 2 as described above and further discloses wherein said estimator is arranged to determine the difference between two successive signal levels (col. 5, line 65-col. 6, line 12).

Art Unit: 2681

However, the examiner believes that at the time of invention, it would have been obvious to a person of ordinary skill in the art to implement the limitations of claims 10-12 since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering optimum or workable ranges (in this case, determining an increase or change in the difference of the signals) involves only routine skill in the art.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Long et al, U.S. Patent No. 5,406,552.

Ling et al, U.S. Patent No. 5,245,611.

Zai et al, U.S. Patent No. 6,122,329.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Temica M. Beamer whose telephone number is (703) 306-5837. The examiner can normally be reached on Monday-Thursday (alternate Fridays) 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (703) 308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2681

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Temica M. Beamer  
Examiner  
Art Unit 2681

September 28, 2004

A handwritten signature in black ink that reads "Temica M. Beamer". The signature is written in a cursive style with a large, stylized 'T' and 'B'.